

# Garmin aera: Portable Touch Screen GPS

Thanks to South Pacific Avionics at Ardmore, KiwiFlyer recently sampled one of Garmin's new aera 550 portable GPS units for the air and road.

**PORTABLE GPS** devices for cars are virtually all driven by touch screens, as are an increasing number of mobile phones. The advantages are many, including graphically driven menu systems, press and drag map movement and (once familiarity is established) speed and ease of use. Comparable touch screen technology for the cockpit seems overdue by comparison.

Garmin have recently addressed this opportunity by releasing the aera range of touch screen portable GPS units. Aimed at recreational pilots, aera offers an all-in-one GPS that includes all the features now expected of an aviation GPS as well as a street mode that provides the features and familiarity of Garmin's nuvi street GPS for vehicle navigation.

Easily swapped between car and aircraft, the aera should appeal to touch screen enthusiasts who want to upgrade their existing portable aviation GPS, as well as aviators who haven't yet succumbed to the need for a GPS in their car. Supplied with a robust aircraft yoke mount and a separate vehicle dashboard friction mount, you can land the plane and then switch to street mode to navigate to your final destination.

The quality of air and street navigation from a mature provider such as Garmin can essentially be taken as a given with all expected features present. What is perhaps of more interest is how easily the aera can itself be navigated with Garmin's new touch screen interface.

## First impressions

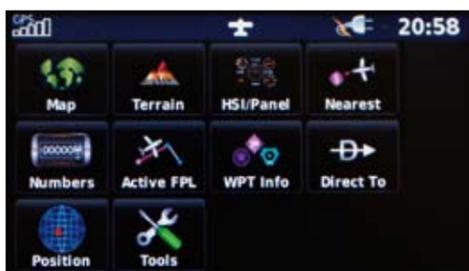
There are no buttons (except for on/off) and all commands to the unit are by touch screen icon and menu selections, or by drag and release for map movement. Power supply is via an internal battery (lasting up to 5 hours depending on backlight use) or by cigarette lighter adaptor.

Extra features available in vehicle mode include a hands free Bluetooth mobile phone interface and an MP3 player. One can't help from wondering how popular the Aera could be if these features were available in aviation mode as well.

I have to admit that until acquiring a touch screen phone 12 months ago



Typical track and route display, in this case with terrain background shading. Points of interest can be selected by touching them on the screen.



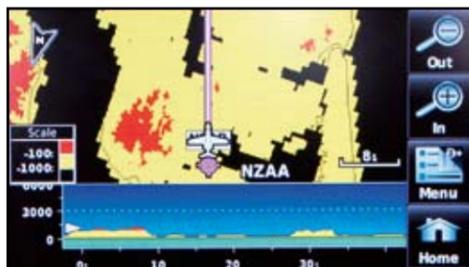
The 11cm diagonal 480x272 pixel touch screen provides for large buttons and icon driven menus.



The Hamilton arrival page. Note the appearance of Info, Frequency and Runway buttons on screen.



The HSI and panel screen.



The terrain page, including side profile view. Terrain avoidance includes audio alerts.

(because I wanted the features that came with it rather than the touch screen itself), I hadn't especially been a touch screen enthusiast. It wasn't long before I became one however. Icon driven menus and a larger screen offer much more opportunity for intuitive use than a limited number of small buttons with tiny labels.

The thing to get used to with any touch screen is the 'feel' of how much pressure and duration of touch is required to activate the option being chosen. There can indeed be some frustration until the particular 'touch' required is mastered, but once achieved the unit is very easy to use. Garmin have opted for a fairly firm touch, undoubtedly to help prevent mis-keying in the cockpit and this did take a while to adjust to. The trick was to turn on the beep response function which soon helps to train the user in the technique required for fast and frustration free usage. It's well worth practicing this at home and will make the aera far more pleasant to operate than if you simply turn it on and expect it to respond to whatever lightness of touch you are already used to.

A nice feature brought about by the touch screen technology is the ability to touch and drag the map across the screen. It has a much more tactile and instant feel to it than pressing arrow buttons. Users of phones that have map and internet zoom controlled by moving fingers apart or together on the screen might be disappointed that the aera reverts to touch icons for zoom in and out but the former is probably more difficult to master in the cockpit than you might think. The same applies for scroll bars during menu selections, where Garmin have in most cases instead chosen to retain icons for up and down selection.

Something that is very nice, is the ability to touch the point of interest (such as airspace or an airfield) to obtain expanded information rather than having to move a pointer with arrow keys across the screen to achieve selection.

## Specifications and Models

There are two aera models for New Zealand, the 500 and the 550. Both have a 4.3" (11cm), 480x272 pixel sunlight readable display. External dimensions are 13.5x8.4x2.3cm and weight is 270gms. GPS antennae are internal and the units are also

waterproof to IPX-7 standard (immersible in 1m of water under defined conditions).

For NZ customers, the 550 model offers three advantages over the 500. The first is high resolution terrain and obstacle data (9 arc-second versus 30) providing 11 times the display resolution in terrain mode. In vehicle mode, the 550 has enhanced features such as lane assist, junction view and speed limit notification. And lastly, the 550 also comes with 12 months of free aviation database updates. These are all "nice to haves" but budget conscious pilots are likely to be quite happy with the capabilities of the 500 model.

## Functions for the air

A home screen full of icons provides for selection of display options which include map, terrain, HSI/panel, active flight plan, numbers, nearest, waypoint info, direct to, and tools. The function selected from this menu will usually appear on the screen with four sub-menu icons on the right of the display – there are 60 icons in total. I did think there might have been a 'hide icons' function but if there is, I never found it. Navigating around the screens isn't difficult and although slightly different in a couple of cases to the GPSMap495, the aera is quickly and intuitively learned (for many users, probably without any reference to the 180 page manual or quick reference guide).

All the normal mapping and airport information functions are present and the terrain page includes a side profile view in the same manner as the GPSMap695. When required, alphanumeric data is entered via a screen displayed keyboard, with autofill helping out for known locations. VNAV, direct to, nearest and flight planning functions all operate in the

normal way.

Utilities include flight and track logs, as well as E6B and weight and balance calculators. A simulator mode is also available for practicing at home.

## Functions for the road

Switching to automotive mode is a simple selection from the home page. The same 'where to' and 'view map' interface found on the Garmin nuvi range will appear. The unit is operated in the now standard manner for automotive GPS with turn by turn voice directions and recalculations when required. Points of interest are plentiful and lane assist is provided on the aera 550 model.

**For Garmin aera and all avionics enquiries, contact South Pacific Avionics at Ardmore**

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[www.avionics.co.nz](http://www.avionics.co.nz)

## Third party interfaces

Released in December 2009, the aera is too new for third parties such as Zacon (portable traffic awareness) or Air Gizmo (panel docks) to be offering interfaces to their products. History suggests that both are likely to be developed in the near future though (Air Gizmo are inviting presale interest via their website). In readiness for electronic interfaces, the aera comes with separate serial and USB interfaces and is TIS (traffic information) capable.

## In conclusion

Portable GPS just keeps getting better and more affordable (particularly in the case of the aera 500). We expect that many purchasers are likely to choose aera simply for aviation rather than combined automotive use, though if you fly and haven't got a GPS for the car yet then this is probably what you need. Users new to touch screens might take a few hours to adjust but a little practice at home will turn you into a touch screen veteran in no time.

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